

REMARKS

The above amendments are made in response to the Office action of September 19, 2006. The Examiner's reconsideration is respectfully requested in view of the above amendment and the following remarks. No new matter has been added, amendments have been made for purposes of clarifying the claimed invention.

The Applicants thank the Examiner for the indication that claims 15-16 and 19-22 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

Claims 1-41 are pending in the present application, claims 35-41 have been withdrawn, leaving claims 1-34 for further consideration. Claims 1, 6, 12, 15, 23, 26, 31 and 34 have been amended. Support for the amendments to claims 1, 6, 15, 23, 26, 31 and 34 can be found at least in claim 15 as originally presented, FIGS. 3, 5A-5B, 6, 8, 9 and 11 and pages 14-20 of the specification as filed. Support for the amendment to claim 12 may be found at least on pages 12-13 and 16 of the specification as filed. No new matter has been added.

Objections to the Specification

The specification stands objected to as failing to provide antecedent basis for the claimed subject matter. Specifically, the Examiner states that the specification fails to provide support for "a corresponding OLE diode in association with ... a pair of the data lines" in lines 5-7 of claim 26. Claim 26 has been amended to recite "a corresponding OLE diode in association with ... at least one of the plurality of data lines"; support for the amendment may be found in the specification and illustrated in FIGS. 3, 5A-B, 6, 9 and 11.

Applicants respectfully request that in light of the present amendments the objections to the specification be withdrawn.

Claim Rejections Under 35 U.S.C. § 112

Claims 23-25 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically the Examiner states that in claim

23 “the fifth thin film transistor” in line 2, lacks sufficient antecedent basis. In order to more clearly point out the Applicants’ invention, claim 23 has been amended to provide antecedent basis for “the fifth thin film transistor”.

In light of the above remarks it is respectfully requested that the rejection under 35 U.S.C. § 112 of claim 23, and claims 24-25 which depend therefrom, be withdrawn.

Claim Rejections Under 35 U.S.C. § 102(b)

In order to anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements “arranged as in the claim.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1274 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Claims 1-4, 6-11, 13-14 and 17-18

Claims 1-4, 6-11, 13-14 and 17-18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kwon (U.S. Patent Publication No. 2002/0118150, hereinafter “Kwon”). The Examiner states that Kwon discloses all of the elements of the abovementioned claims.

Kwon is directed to an organic electroluminescent display driving method and pixel circuit thereof. (See Abstract). Kwon discloses an OLED including a plurality of data lines for transmitting data voltages (D1 through Dy), scan lines for transmitting select signals (S1 through Sz), a pixel circuit 11 and a data driver 30. (See FIG. 4 and paragraphs 0040-0041). The pixel circuit 11 comprises an OELD, TFTs M1 and M2, switches S1 and S2, and a capacitor C1. (See FIG. 5-7 and paragraph 0044).

Kwon does not disclose, teach or suggest **a fifth switching device including a conduction path for receiving a bias voltage from the fourth switching device and generating the driving signal to the organic light emitting diode, the conduction path**

being controlled by the previous gate signal from the first gate line as claimed in amended independent claim 1 of the present invention.

Kwon discloses two switches, S1 and S2 and two TFTs, M1 and M2, but never discloses **a fifth switching device**.

Thus, claim 1 is believed to be patentably distinct and not anticipated by Kwon. Claims 2-4, 6-11, 13-14 and 17-18 depend directly or indirectly from claim 1, and thus include all the limitations of claim 1. It is thus believed that the dependent claims are allowable for at least the reasons given for independent claim 1, which is believed to be allowable for the reasons stated above.

Claim 14, in addition to being patentably distinct for the reasons stated above as being dependent from claim 1, is also believed to be patentably distinct and not anticipated for the following reasons. Kwon does not disclose, teach or suggest **the bias voltage is provided from a power supply line disposed substantially parallel with the data line** of claim 14. Kwon does not show a power supply line supplying the power voltage VDD, but instead only shows VDD as being applied to a terminal of TFT M1. It does not show how a power supply line would be disposed in relation to the data line.

Similarly, Claim 18, in addition to being patentably distinct for the reasons stated above as being dependent from claim 1, is also believed to be patentably distinct and not anticipated for the following reasons. Kwon does not disclose, teach or suggest **the bias voltage is provided from a power supply line disposed substantially parallel with the first and second gate lines** of claim 18. Kwon does not show a power supply line supplying the power voltage VDD, but instead only shows VDD as being applied to a terminal of TFT M1, and therefore does not disclose how a power supply line would be disposed in relation to the gate line.

Claim 17, in addition to being patentably distinct for the reasons stated above as being dependent from claim 1, is also believed to be patentably distinct and not anticipated for the following reasons. Kwon does not disclose, teach or suggest **wherein the source of the second thin film transistor is connected with the second gate line, so that the conduction path of the second thin film transistor transfers the current gate signal to the fourth thin film transistor as the reference signal** of claim 17. Kwon discloses that the source of the second switch is connected to a ground (See FIGS.

5, 6 and 7) or a precharge voltage “Vpre” (See FIGS. 12, 14, 15, 18 and 19) or even a first gate line (See FIG. 13), but never a second gate line.

Accordingly, Applicants respectfully request reconsideration and allowance of claims 1-4, 6-11, 13-14 and 17-18.

Rejections Under 35 U.S.C. § 103

In order for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all of the elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). See MPEP 2143. Claims 3, 4, 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Applicants’ prior art (Fig. 3).

Claims 5 and 12

Claims 5 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kwon in view of the knowledge available to one of ordinary skill in the art. The Examiner has stated that Kwon in view of the knowledge available to one of ordinary skill in the art teaches all of the limitations of claims 5 and 12.

As mentioned above for amended claim 1, Kwon neither teaches nor suggests a **fifth switching device including a conduction path for receiving a bias voltage from the fourth switching device and generating the driving signal to the organic light emitting diode, the conduction path being controlled by the previous gate signal from the first gate line**, as claimed in amended independent claim 1.

Applicants submit that Kwon, either alone or in combination with the knowledge available to one of ordinary skill in the art, does not render obvious the subject matter of

claim 1. Claims 5 and 12 depend from claim 1, and thus include the allowable elements of claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 1.

Claims 5, in addition to being patentably distinct for the reasons stated above as being dependent from claim 1, is also believed to be patentable and not obvious over Kwon for the following reasons. Kwon does not disclose, teach or suggest **wherein the first, second, third and fourth thin film transistors are polysilicon thin film transistors.**

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited reference. The Examiner's reconsideration and withdrawal of the rejection of claims 5 and 12, and subsequent allowance of claims 5 and 12, is respectfully requested.

Claims 26-27 and 30-34

Claims 26-27 and 30-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kwon as a matter of obvious design choice.

Kwon is directed to an organic electroluminescent display driving method and pixel circuit thereof as discussed above.

Kwon does not disclose, teach or suggest **a plurality of pixel driving units each of which provides a driving signal to a corresponding OLE diode in association with a pair of the gate lines and at least one of the plurality of data lines, wherein each of the pixel driving units includes: a first driving transistor having a conduction path with one terminal receiving a bias voltage and the other terminal providing the bias voltage to a second driving transistor, wherein the second driving transistor has a conduction path with one terminal receiving the bias voltage and the other terminal providing the driving signal to the diode** as claimed in amended independent claim 26 of the present invention.

Kwon only discloses one driving transistor M1. (See FIG. 5-7 and paragraph 0044). Kwon, fails to teach or suggest **a first driving transistor and a second driving transistor**, as claimed in amended independent claim 26.

Thus, Applicants submit that Kwon does not render obvious the subject matter of amended independent claim 26. Claims 27 and 30-34 depend from claim 26, and thus include the allowable elements of claim 26. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 26.

Claims 32 and 33, in addition to being patentably distinct for the reasons stated above as being dependent from claim 26, are also believed to be patentable and not obvious over Kwon for the following reasons. Kwon does not disclose, teach or suggest **wherein the power supply lines are parallel with the data lines** of claim 32 or **wherein the power supply lines are parallel with the gate lines** of claim 33. Kwon does not show a power supply line supplying the power voltage VDD, but instead only shows VDD as being applied to a terminal of TFT M1, and therefore does not disclose how a power supply line would be disposed in relation to the data or gate lines.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claims 26-27 and 30-34, and the subsequent allowance of those claims, is respectfully requested.

Claims 28 and 29

Claims 28 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kwon in view of Doliner et al. (U.S. Patent No. 4,739,320, hereinafter "Doliner"). The Examiner has stated that Kwon in view Doliner discloses all of the limitations of claims 28 and 29.

As mentioned above for amended independent claim 26, Kwon neither teaches nor suggests **a plurality of pixel driving units each of which provides a driving signal to a corresponding OLE diode in association with a pair of the gate lines and at least one of the plurality of data lines, wherein each of the pixel driving units includes: a first driving transistor having a conduction path with one terminal receiving a bias voltage and the other terminal providing the bias voltage to a second driving transistor, wherein the second driving transistor has a conduction path with one**

terminal receiving the bias voltage and the other terminal providing the driving signal to the diode, as claimed in amended independent claim 26.

Doliner is directed to an energy-efficient split-electrode TFEL panel. (See Abstract). Doliner discloses a driving architecture for a matrix addressed TFEL display including upper and lower electrode arrays, wherein the top and bottom data electrode arrays may be driven simultaneously. (See Abstract).

Doliner, however, fails to teach or suggest **a plurality of pixel driving units each of which provides a driving signal to a corresponding OLE diode in association with a pair of the gate lines and at least one of the plurality of data lines, wherein each of the pixel driving units includes: a first driving transistor having a conduction path with one terminal receiving a bias voltage and the other terminal providing the bias voltage to a second driving transistor, wherein the second driving transistor has a conduction path with one terminal receiving the bias voltage and the other terminal providing the driving signal to the diode**, as claimed in amended independent claim 26.

Thus, Applicants submit that neither Kwon nor Doliner, alone or in combination, render obvious the subject matter of claim 26. Claims 28-29 depend from claim 26, and thus include the allowable elements of claim 26. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 26.

Claim 28, in addition to being patentably distinct for the reasons stated above as being dependent from claim 26, is also believed to be patentable and not obvious over Kwon in view of Doliner for the following reasons. Neither Kwon nor Doliner disclose, teach or suggest **the dummy gate line is synchronized with a last one of the gate lines** of claim 28. Kwon does not disclose, teach or suggest synchronization. Doliner discloses data line synchronization, but does not disclose, teach or suggest gate line synchronization of any kind.

Claim 29, in addition to being patentably distinct for the reasons stated above as being dependent from claim 26, is also believed to be patentable and not obvious over Kwon in view of Doliner for the following reasons. Neither Kwon nor Doliner disclose, teach or suggest **wherein a same gate signal is applied to the dummy gate line and a last one of the gate lines simultaneously** of claim 29. Kwon does not disclose, teach or

suggest synchronization. Doliner discloses data line synchronization, but does not disclose, teach or suggest gate line synchronization of any kind.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claims 28 and 29, and the subsequent allowance of those claims, is respectfully requested.

Conclusion

In light of the above remarks, the present application including claims 1-34 are believed to be in condition for allowance.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejections. If there are any charges due with respect to this response, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

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